Output water yield differs from that in Tutorial 1

Posted by kch - 2010/06/20 18:44

Hi,

I've installed AGWA2.0 on ArcMap (ArcEditor) 9.3.1 using the 20091105 build.

When working through Tutorial 1, I have a problem with the output water yield (p.11). The results I get differ from the result in the tutorial--please see image:

http://www.tucson.ars.ag.gov/AGWA/images/fbfiles/images/s73WaterYieldOutput.gif

AGWA2.0 did not pop up any error messages, but I noticed that the streams layer contains some NULL entries:

http://www.tucson.ars.ag.gov/AGWA/images/fbfiles/images/streams_s1d1.gif

I was using the SWAT2000 option for the water yield output above--SWAT2005 gives an even more inconsistent result. Is SWAT2000 in AGWA2.0 consistent with SWAT in AGWA1.5?

Any ideas?
Thanks,
Karen

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Re:Output water yield differs from that in Tutorial 1

Posted by kch - 2010/06/20 20:26

In case it might be useful for troubleshooting, I reran the tutorial and checked the error log after each step. Here's what I found:

* Other Options --> Raster Legend Tool:
CmdRender.OnClick()
Cannot access a disposed object.
Object name: 'FormRender'.
Error Code: a
(The Raster Legend Tool window failed to appear.)

* Parameterization Options --> Land Cover and Soils Parameterization:
The table 'tmpC1' does not exist in the path 'C:Program FilesAGWA2temp'.
Error Code: a
TabulateArea encountered nodata in the land cover grid
Error Code: a
TabulateArea encountered nodata in the land cover grid
Error Code: a
TabulateArea encountered nodata in the land cover grid
Error Code: a
TabulateArea encountered nodata in the land cover grid

Error Code: a

* Precipitation Options --> Write SWAT Precipitation:
Utils.MaxIntValue()
Error HRESULT E_FAIL has been returned from a call to a COM component.
Error Code: a

Thanks,
Karen

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Re:Output water yield differs from that in Tutorial 1

Posted by isburns - 2010/06/22 18:03

Hi Karen,
I'll rerun the tutorial myself to see what results I get and post back the results, but I expect the differences you're seeing are nothing to worry about and are a result of the tutorial not being updated very recently (you probably noticed things looked a little different in other places as well). In any case, the null values in the stream attribute table aren't a concern either; they're duplicate streams without geometry used to store a second contributing stream. SWAT2005 should not be used as the version included with AGWA has a routing error in it and the versions available at the SWAT website will not work with AGWA. SWAT should, for the most part, be consistent between AGWA 1.5 and AGWA 2.0 but there will be some differences caused by differences in the shapes of the discretizations (AGWA 1.5 uses weeding and AGWA 2.0 does not) which will carry through to the land cover and soils parameterization.

None of the messages in the log file look to be problematic- none of them are failures that prevent the successful parameterization or writing of precipitation. The Raster legend tool error will cause ArcMap to crash if you go to the symbology tab of the raster you loaded a legend for. If this causes problems, you'll need to remove the raster from the map and re-add it.

Shea

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Re:Output water yield differs from that in Tutorial 1

Posted by kch - 2010/06/22 23:02

Hi Shea,

Thanks for your response; hopefully my results will match yours.

In the meantime, I appear to have a bug. Simulation 1 and Simulation 2 are inverted in the SWAT Results Difference. That is, if I select s97 as Simulation 1 and s73 as Simulation 2--according to the Tutorial instructions--then the comparison equation forced into the greyed-out/non-editable Equation box is "s73 - s97", or the negative of what is needed (s97 - s73).

http://www.tucson.ars.ag.gov/agwa/images/fbfiles/images/s97s73aResultsMenu.JPG

This will be easy enough to work around, though--I'll just enter Simulations 1 and 2 in the opposite order, forcing s97 - s73. (Which actually makes more sense, really, s73 being earlier in time than s97 .)

Thanks,
Karen

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Re:Output water yield differs from that in Tutorial 1

Posted by isburns - 2010/06/23 16:49

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Karen,
Just wanted to update you that I ran the tutorial and got the exact same results as you did, so you're not doing anything wrong.

Regarding the results differencing, this is again a situation where what you're experiencing is more correct than what is in the tutorial. Percent difference is calculated by subtracting the original value from the new value, dividing by the original value, and multiplying by 100, or
(new - original)/original * 100

Simulation 1 is the original and simulation 2 is the alternative or new value. The tutorial shows something else entirely and is wrong. I really need to upload an updated version, sorry for the trouble.

Shea

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Re:Output water yield differs from that in Tutorial 1

Posted by kch - 2010/06/23 17:24

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Thank you, Shea. :)

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